Manitoba
Building for the Future

Guidelines For Estimating
Soybean Production Costs

anitoba Agriculture and Food - Information Update **www.gov.mb.ca/agriculture/**

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This guide is designed to provide you with planning information and a format for calculating costs of production for a soybean enterprise. Also available, on the Manitoba Agriculture and Food website, is an Excel spreadsheet and it can be downloaded from the following address: **www.gov.mb.ca/agriculture**.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for farm managers to do calculations to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit to finance the inputs.

Producers are encouraged to calculate their own costs of production. Costs and yields will differ on each farm due to soil type, climatic conditions and agronomic practices.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local Manitoba Agriculture and Food office.

Industry Summary

Over the past 7 years soybean acreage in Manitoba has increased from under 1,000 acres to over 120,000 acres with average yields of 37 bushels per acre.

Soybeans can be grown for either the local feed, crushing or edible food market. Soybeans grown for crushing are currently shipped to large crushing plants in North Dakota or Minnesota. A small crushing plant will be operating in the 2003 crop year in Manitoba and a commercial roasting plant has been in operation for several years. Soybeans can also be grown under identity preserved (IP) for premiums above the current market price in Chicago. These IP contracts, either yellow (called white by the processors) or dark hilum beans, are shipped to Europe and Asia. Hilums are the place where the bean is attached to the pod and can be yellow, black, brown or buff in colour. Some companies are contracting yellow or clear hilum soybean varieties for the human food market, **if the soybeans meet the buyers standards**. Yellow hilum soybeans that do not meet this standard are marketed through the crushing market. This is similar to farmers who grow barley for the malting industry.

Soybean - Cost of Production Summary January, 2003

A. Operating Costs	Cost /Acre	Cost /bushel	Your Cost
1.01 Seed, treatment & inoculant	$53.03	$1.43	
1.02 Fertilizer	$10.50	$0.28	
1.03 Chemicals	$35.50	$0.96	
1.04 Fuel Costs	$8.29	$0.22	
1.05 Repair & Maintenance	$9.40	$0.25	
1.06 Insurance	$6.03	$0.16	
1.07 Miscellaneous	$8.00	$0.22	
1.08 Land Taxes	$6.50	$0.18	
Subtotal Operating	$137.25	$3.71	
1.09 Interest on Operating	$4.12	$0.11	
Total Operating Costs	**$141.37**	**$3.82**	
B. Fixed Costs			
2. Depreciation			
2.01 Machinery	$23.50	$0.64	
2.02 Storage	$1.90	$0.05	
3. Investment			
3.01 Land	$22.00	$0.59	
3.02 Machinery	$9.40	$0.25	
3.03 Storage	$0.84	$0.02	
Total Fixed Costs	**$57.64**	**$1.56**	
C. Labour	**$15.00**	**$0.41**	
Total Cost of Production	**$214.01**	**$5.78**	

Estimated yield per acre **37 bushels**

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Manitoba Agriculture and Food
Farm Management

Soybean Cost of Production Worksheet
Assumptions

1. This budget provides a guideline to determine the cost of production for a soybean enterprise based on 200 acres.

2. The investment in machinery and equipment was assumed to be $235 per acre. The machinery complement is similar to a grain enterprise

3. A yield of 37 bushels per acre was assumed.

4. A premium inoculant program (7 lbs granular/acre plus 3/4 rate of peat) is included in the budget, with the assumption that the field seeded has not had 2 crops of well nodulated soybeans. Fields that have had 2 well nodulated crops within the last 6 years can reduce the inoculant cost. Consult your agronomist for more details.

5. A land value of $550 per acre was assumed.

A. Operating Costs			**Your Farm**
1.01 Seed, treatment & inoculant			
	200,000	plants/acre	_____
÷	2,600	seeds/lb	_____
x	1.15	emergence factor	_____
=	88	seeding rate lbs/acre	_____
x	$0.36	seed cost ($/lb)	_____
+	$18.35	inoculate	_____
+	$3.00	seed treatment	_____
=	**$53.03**	**$ /acre**	_____

1.02 Fertilizer

Nitrogen		0	lbs/acre	
	x	$0.28	cost/lb	
	=	$0.00	$ /acre	
P2O5		35	lbs/acre	
	x	$0.300	cost/lb	
	=	$10.50	$ /acre	
K2O		0	lbs/acre	
	x	$0.145	cost/lb	
	=	$0.00	$ /acre	
Sulfur		0	lbs/acre	
	x	$0.33	cost/lb	
	=	$0.00	$ /acre	
Zinc		0	lbs/acre	
	x	$1.50	cost/lb	
	=	$0.00	$ /acre	
Total	=	$10.50	**$ /acre**	

1.03 Chemicals

	$0.00	pre plant incorporated	
+	$35.50	post emergent	
=	$35.50	**$ /acre**	

1.04 Fuel Costs

a) Field Fuel Costs

Operation	Times Over	Width feet	Speed mph	Fuel $/ac.	
Cultivate	1	24	5	1.54	
Spray	1	90	7	0.29	
Plant	1	24	5	1.54	
Spray	1	90	7	0.29	
Combine	1	24	4	1.92	
Total				**$5.58**	

b) Truck Fuel Costs - from field to storage & market

	37	gross yield bu/acre	
=	222	total tons	
÷	5	truck capacity (tons)	
=	44.4	trips	
x	5	miles dist/trip	
=	222	total miles	
÷	2	fuel consumption (miles/gal)	
=	505	total litres (4.546 litres/gal)	
÷	200	total acres	
=	2.525	litres/acre	
x	$0.52	fuel cost ($/litre)	
Total =	**$1.31**	**trucking ($ /acre)**	
c) Other fuel costs	**$1.40**	**$ /acre**	
Total =	**$8.29**	**fuel costs ($ /acre)**	

1.05 Repair & Maintenance

	4.0%	percentage rate	
x	$235	investment/acre	
=	**$9.40**	**$ /acre**	

1.06 Insurance

	$3.23	crop insurance	_____
+	$2.80	hail insurance	_____
=	**$6.03**	**$ /acre**	_____

1.07 Miscellaneous

=	**$8.00**	**$ /acre**	_____

1.08 Land Taxes

=	**$6.50**	**$ /acre**	_____

1.09 Interest on Operating

	$137.25	subtotal operating	_____
÷	2	average	_____
x	6.0%	interest rate	_____
=	**$4.12**	**$ /acre**	_____

B. Fixed Costs

2. Depreciation

$$\frac{\text{Original Value - Salvage Value}}{\text{Useful Life}}$$

2.01 Machinery

	$235.00	cost/acre	_____
-	$0.00	salvage value	_____
÷	10	useful life	_____
=	**$23.50**	**$ /acre**	_____

2.02 Storage

	$40.00	cost/acre	_____
-	$2.00	salvage value	_____
÷	20	useful life	_____
=	**$1.90**	**$ /acre**	_____

3. Investment

$$\frac{\text{Original Value + Salvage Value}}{2} \times \text{Investment Rate}$$

3.01 Land

	$550.00	cost/acre	_____
x	4.0%	% investment rate	_____
=	**$22.00**	**$ /acre**	_____

3.02 Machinery

	$235.00	cost/acre	_____
+	$0.00	salvage value	_____
x	4.0%	% investment rate	_____
=	**$9.40**	**$ /acre**	_____

3.03 Storage

	$40.00	cost/acre
+	$2.00	salvage value
÷	2	average
x	4.0%	% investment rate
=	**$0.84**	**$ /acre**

C. Labour

	$10.00	$/hour
x	1.5	hours/acre
=	**$15.00**	**$ /acre**

For further information contact your local Manitoba Agriculture office.

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